

WHAT IS CLAIMED IS:

1. A MEMS device package comprising:
  - a plastic case with an O-ring-seal flange;
  - a printed circuit board base in said plastic case;
  - an O-ring seal on said flange;
  - a window on said O-ring seal; and
  - a window retaining ring connected to said case and pressing said window to said O-ring.
2. The MEMS package of Claim 1, wherein said printed circuit board is molded into said plastic case.
3. The MEMS package of Claim 1, wherein said printed circuit board has a center pad for attaching said MEMS device.
4. The MEMS package of Claim 1, wherein said printed circuit board has circuit traces for connecting micromirror signals to external circuitry.
5. The MEMS package of Claim 1, wherein said plastic case has:
  - corner mounting holes; and
  - built-in retainer ring snap-slots, said window retaining ring connected to said case via said snap-slots.
6. The MEMS package of Claim 1, wherein said printed circuit board has a thermal ground plane on a bottom surface.

7. The MEMS package of Claim 6, wherein said printed circuit board circuit traces connect to edge pads around the perimeter of said package.
8. The MEMS package of Claim 6, wherein said printed circuit board circuit traces connect to a matrix of grid-pads on the bottom surface of said package.
9. The MEMS package of Claim 6, wherein said printed circuit board traces are connected to flex-cables with built-in connectors.
10. A method of packaging a MEMS device, the method comprising the steps of:
  - attaching a MEMS device to a printed circuit board base;
  - bonding pads on said MEMS device to pads on said printed circuit board base;
  - placing an O-ring on an O-ring-seal flange of a plastic case;
  - placing a plastic window on top of said O-ring;
  - placing a snap-on window retaining ring on top of and around the perimeter of said window; and
  - compressing said snap-on window retaining ring, window, and O-ring until said snap-on retaining ring hooks lock into snap-slots located in said plastic case.
11. A MEMS package comprising:

a plastic case with an adhesive-seal flange;  
a printed circuit board base in said plastic case  
and;

a window bonded to said adhesive-seal flange.

12. The MEMS package of Claim 11, wherein said printed circuit board is molded into said plastic case.
13. The MEMS package of Claim 11, wherein said printed circuit board has a center pad for attaching said micromirror.
14. The MEMS package of Claim 11, wherein said printed circuit board has a thermal ground plane on a bottom surface.
15. The MEMS package of Claim 11, wherein said printed circuit board has circuit traces for connecting micromirror signals to external circuitry.
16. The MEMS package of Claim 15, wherein said printed circuit board circuit traces connect to edge pads around the perimeter of said package.
17. The MEMS package of Claim 15, wherein said printed circuit board circuit traces connect to a matrix of grid-pads on the bottom surface of said package.
18. The MEMS package of Claim 15, wherein said printed circuit board traces are connected to flex-cables with built-in connectors.

19. A method of packaging a micromirror, said method comprising the steps of:

- attaching a micromirror to a printed circuit board base;
- bonding micromirror pads to printed circuit board base pads;
- placing said printed circuit board in a plastic case;
- dispensing adhesive onto an adhesive-seal flange on said plastic case;
- placing a window on top of said adhesive; and
- curing said adhesive.

20. A micromirror projection display comprising:

- a light source for providing a beam of light along a light path;
- a first condenser lens on said light path for receiving said beam of light;
- a filter assembly on said light path for receiving and filtering said beam of light from said first condenser lens;
- a second condenser lens for receiving said filtered beam of light;
- a micromirror mounted in a low-cost molded plastic package with built-in printed circuit board base and

window for selectively modulating said filtered beam of light; and

a projection lens for receiving said modulated beam of light and focusing said modulated beam of light on an image plane.

21. The micromirror projection display of Claim 16, wherein said micromirror package contains flex-circuit interconnect cables with built-in connectors.

22. A high-brightness micromirror projection display comprising:

a light source for providing a beam of light along a light path;

a first condenser lens on said light path for receiving said beam of light;

a total internal reflective prism receiving said beam of light;

a color-splitting prism assembly receiving said beam of light from said total internal reflective prism;

three micromirrors mounted in a low-cost molded plastic packages with built-in printed circuit board bases and windows for selectively modulating said filtered beam of light; and

a projection lens for receiving said modulated beam of light and focusing said modulated beam of light on an image plane.

23. The micromirror projection display of Claim 23, wherein said micromirror packages contain flex-circuit interconnect cables.